

Appendix H

U.S. Fish and Wildlife Service Coordination



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

IN REPLY REFER TO:
CESAC - Bel Marin Keys
Unit V Wetland Restoration

May 16, 2002

Mr. Thomas R. Kendall
Chief, Planning Division
Corps of Engineers, San Francisco District
333 Market Street
San Francisco, California 94105-2197

Dear Mr. Kendall:

The U.S. Army Corps of Engineers (Corps), in collaboration with the California State Coastal Conservancy (Conservancy) and the San Francisco Bay Conservation and Development Commission (BCDC), is considering expanding the authorized Hamilton Army Airfield Wetland Restoration Project to include wetland restoration at the Bel Marin Keys Unit V (BMK) site, located adjacent to the Hamilton Army Airfield in Marin County. The 1,595-acre BMK site would restore several habitats including freshwater emergent wetland, seasonal wetland, high transitional marsh, tidal salt marsh, and uplands. This diverse array of habitats would presumably benefit listed species, as well as other migratory and resident species. The BMK parcel, in conjunction with the Hamilton Army Airfield parcel, would restore about 2,000-2,300 acres of habitat. Three alternatives have been selected for inclusion in the Draft Supplemental Environmental Impact Report/Environmental Impact Statement for the BMK site. These are: (1) dredged material placement with an enlarged Pacheco Pond, (2) dredged material placement with seasonal wetlands, and (3) natural sedimentation with an enlarged Pacheco Pond.

In the Scope of Work for Fiscal Year 2002, your office requested that the Fish and Wildlife Service (Service) prepare a brief Planning Aid Letter which describes our initial comments and concerns on the BMK project. Therefore, the following comments are our preliminary concerns on the proposed project. Please bear in mind that they are *preliminary*, and subject to change, as they are based on the limited information that we have at this time. More exhaustive studies will be completed by our office as we proceed with writing the Fish and Wildlife Coordination Act report, conducting the Habitat Evaluation Procedures, completing a thorough contaminants assessment, and consulting with your office under section 7 of the Endangered Species Act.

Recommended fundamental elements of tidal restoration design

Loss of tidal marsh habitat in the San Francisco Bay area has been extensive and has resulted in severely decreased populations of species dependent on this habitat. Remaining and created tidal marsh habitat in the San Francisco Bay is critical to the survival of these species. Therefore, Alternative 3 is currently our preferred alternative with regards to the habitat distribution, since it has the greatest amount of tidal marsh habitat. However, the expansion of Pacheco Pond at the

expense of habitats that would better benefit marsh species is not acceptable. Some additional high transitional marsh and seasonal wetland in this area and along the perimeter levees would provide refuge for marsh species during extreme high tide events.

Full tidal exchange and natural sedimentation are preferable primary methods for tidal restoration at the BMK site for the following reasons: (1) placement of dredged material at this scale, and project dependence on imported dredged materials, would cause unacceptable loss of restoration project control because of linkage with dredge disposal needs, permit and environmental regulatory uncertainties of dredging projects (e.g., Montezuma Wetlands), and long construction delays with site preparation and disposal; (2) though declining, the pool of available fine sediment in San Pablo Bay is abundant, and would remain abundant during the expected wetland development period; and (3) the adjacent extensive tidal mudflats and marshes are already erosional.

Selective placement of imported dredged material would be potentially useful for construction of wide, gently sloping terraces or benches along the interior edges of the restoration. Based on observation of inadvertent alluvial fans (dredge discharge sediment cones) at Sonoma Baylands, we recommend deliberate hydraulic placement of coarse-grained dredge material (coarse silt, fine sand) to form inexpensive, extensive alluvial terraces along the edge instead of earthmoving. These gently sloping gradients would provide for rapid, wide natural marsh accretion along the periphery of the intertidal zone, and would naturally dissipate wave energy, favoring deposition rather than erosion of sediment under the influence of internal wave energy.

Additionally, we recommend against emergent wavebreak berms with artificial patterns, similar to those at Sonoma Baylands. Wave energy damping should rely on bed roughness of residual vegetation, and irregular, randomized placement of topographic highs. Topographic highs should be intertidal, and support bed roughness by native marsh vegetation. Emergent wavebreaks (upland artifacts) artificially facilitate unacceptable dispersal and foraging of terrestrial predators. Artificial controls of tidal drainage patterns may result in unpredictable constraints and simplification of naturally complex channel variables with very high ecological significance (variation in channel sinuosity, drainage density, pan density and size, channel branching, etc.).

Finally, outboard dikes should be graded down to the upper limits of tidal influence to create high marsh, rather than unflooded terrestrial habitat. Erratic uplands at unnatural locations provide unacceptable nuclei for invasive nonnative plants which may degrade future high marsh habitat quality, and are likely to facilitate dispersal and foraging by non-native terrestrial predators.

Contaminants Concerns

Contaminants could potentially be present in the BMK parcel. The Phase I Preliminary Environmental Site Assessment (Erler and Kalinowski, Inc. 2000) summarizes the work done to characterize the site prior to property transfer. Sediment samples collected from the central and western regions of the property in 1989 did not have detectable concentrations of organochlorine

pesticides, herbicides, polychlorinated biphenyls (PCBs), or petroleum hydrocarbons, although the reporting limits were unacceptably high for several analytes. In addition, no analysis of 2,4-Dichloro-phenoxyacetic acid (2,4-D) metabolites or potential contaminants, including 2,3,7,8 congener (TCDD), was included even though 2,4-D use was documented on the site. Furthermore, no sampling was done around the sheds, which were likely used for pesticide storage and farm vehicle maintenance activities, the three above ground fuel tanks, the refuse pile in the northeast corner, or the tire pile in the eastern portion. Maximum total mercury concentrations in the dredge spoil piles from BMK (range 0.181-0.496 milligrams/kilogram [mg/kg]) exceed the 0.35 mg/kg total mercury criteria for wetland cover use (CRWQCB 1995). Petroleum hydrocarbons (diesel, gasoline, JP-4) and TCDD toxic equivalents (TEQ) were detected, and chromium, molybdenum, silver, thallium, selenium, and copper were above the Hamilton Army Airfield background criteria in the western property boundary area, which is the North Antenna Field that is adjacent to the BMK parcel.

Several aspects of the alternatives allow for potential input of contaminants from adjacent areas to enter the marsh system. Stormwater outflows from Pacheco Pond, the New Hamilton residential area, and Bel Marin Keys Lagoon could all potentially introduce household and industrial contaminants into the restoration area. Any outflow from adjacent lands and Landfill 26 area should not be added onto the wetland. One option would be confinement of the runoff into a perimeter drainage canal along the levees (western edge of Hamilton airfield parcel and along Bel Marin Keys Lagoon) to prevent potential introduction of contaminants and also to provide perennial flow in a ditch along each levee to reduce human and predator access to the restoration area. Another option would be to transport this water through the existing Novato Sanitary District pipeline and pump it out into the San Pablo Bay at the outfall. Bel Marin Keys Lagoon outflow could also be pumped out via the pump station as in Alternative 3.

Similarly, the Service is concerned about potential mobilization of contaminants remaining on-site in Hamilton Army Airfield and North Antenna Field areas. The contamination present in both the airfield and North Antenna Field has not yet been fully characterized. In addition, although the Corps is excavating known "hot spots" in the area of primary channel cuts in the airfield area and putting dredged material over other areas, the Service is not assured that all potential mobilization of contaminants has been recognized and prevented. The creation of an upland area in the North Antenna Field area as a remediation for lead contamination remaining in place is not a satisfactory solution. This upland area requires space that would preferably be tidal marsh habitat. In addition, the levee breaches to the airfield (Alternative 2) and the primary channel cut through the North Antenna Field (Alternative 1) increase the likelihood of contaminant mobilization and would allow movement of any mobilized contaminants into the entire restoration area.

If dredged material is used to more rapidly elevate the marsh plain, the material would need to be sufficiently characterized, and not have chemicals present at concentrations sufficient to cause adverse effects to wildlife.

Integration of flood protection and tidal marsh restoration

Flood protection for any adjacent developed areas should be designed to integrate fully with restoration designs, and flood engineering and habitat engineering designs should be developed by fully integrated teams. We envision wide, sloping levees as continuous with high tidal marsh ecotones.

Interim wetland management

We recommend that the diked baylands at the BMK site be managed as a mix of seasonal and perennial marsh during the interim period prior to tidal restoration. An example of the result of simple cessation of pumping and drainage, allowing groundwater elevations to fluctuate above and below the existing subsided surface, is found at Cullinan Ranch (located at the San Pablo Bay National Wildlife Refuge), a diked bayland with similar subsidence. The principal benefits from a mix of open seasonal ponds with low-growing emergent vegetation (dwarf spikerush, annual native forbs) and tall perennial emergents (cattail, tule) can be inferred from this example. Cullinan Ranch provides rich habitat for dabbling ducks, migratory shorebirds, wading birds, and some breeding resident shorebirds. The development of wetland soils and biomass can arrest or gradually reverse subsidence. The matrix of tall, persistent perennial vegetation would provide significantly enhanced bed roughness for several years to facilitate tidal sedimentation after tides are restored. Local deep pond excavation may be consistent with on-site borrow fills for some essential pre-construction of earthen features of the tidal restoration designs.

Fresh wastewater discharges

We recommend that the fresh wastewater discharges associated with the dechlorination plant be rigorously re-examined for their potential to be routed through ecotonal freshwater/brackish wetlands in transition to tidal wetlands, to provide important local salinity gradients which would otherwise be unavailable. We note that the historic tidal wetlands at the site were connected to riparian freshwater drainages which discharged into large marsh ponds.

Alternative designs to incorporate compatible habitat for shorebirds and waterfowl

Rather than construct separate artificially impounded, nontidal habitats dedicated to shorebirds and waterfowl, we recommend restoration designs which integrate shallow seasonally ponded and perennial shallow water habitats with the restored tidal marsh. High marsh pans, marsh edge pans, and deeper ponds, based on the best available interpretations of natural remnant features in the central coast region, and historic geographic evidence, should be considered as priorities for shorebird and waterfowl habitat.

Integration of public access and tidal marsh restoration

The Service recognizes the need to incorporate compatible public access in urban estuarine reserves, to provide valuable opportunities for public education, nature interpretation, esthetic enjoyment, and wild scenic values of restored tidal marshes. Poorly designed public access, particularly recreational perimeter trails, however, may eliminate some of the most ecologically important habitat functions of restored tidal marshes. We recommend emphasis of short loop trails or spur trails that provide marsh viewing to elevated platforms, blinds, or interpretive

Mr. Thomas R. Kendall

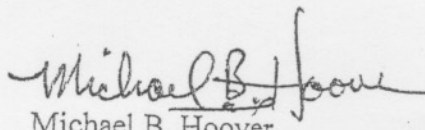
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stations. Because of unacceptable uncertainties in the enforceability and compliance with leash laws, we recommend that alternative upland dog exercise areas be provided away from the marsh; all pets should be prohibited from marsh edge access. Jogging trails, similarly, should be constructed away from marsh edges. Fishing access to subtidal waters should be provided to discourage pedestrian access or degradation of marsh habitat.

At this time, the trail system in Alternative 1 is preferred since it does not fully edge the restoration area. The trail system should also be lined with a fence that is buried at the bottom and a water-filled "moat" should be constructed inside of the fence to minimize access by humans, pets, and predators, including feral animals. The levee for the Novato Sanitary District pipeline should also be gated and preferably have a drawbridge over water to prevent unauthorized access and predator movement. The levees also act as a barrier to the movement of small animals between the parcels and if levee breaches do occur, they should have gradually sloping sides to promote native marsh vegetation. This will allow a migration corridor for salt marsh harvest mice that otherwise would have to cross the top of a sparsely vegetated levee with increased risk of predation.

The Service recommends that the Corps, Conservancy, and BCDC incorporate these comments, concerns, and recommendations into their planning process as the currently selected alternatives are analyzed more closely. If you have any questions concerning this letter, please contact Caroline Prose at (916) 414-6575.

Sincerely,


Michael B. Hoover
Acting Field Supervisor

Enclosure

cc:

FWS, AES, Portland, OR
FWS, San Francisco Bay NWR Complex, Newark, CA
FWS, San Pablo Bay NWR, Vallejo, CA
USACE, San Francisco, CA (Attn: Eric Jolliffe)
NMFS, Santa Rosa, CA
CDFG, Region II, Yountville, CA
California State Coastal Conservancy, Oakland, CA
San Francisco Bay Conservation and Development Commission, San Francisco, CA
EPA, San Francisco, CA
Jones and Stokes Associates, Oakland, CA

LITERATURE CITED

Erler and Kalinowski, Inc. 2000. Phase I Preliminary Environmental Site Assessment for California Quartet property, Bel Marin Keys Unit V, Marin County, California. Prepared for California Quartet, LLC. San Francisco, California.

CRWQCB (California Regional Water Quality Control Board). 1995. Wetlands Creation Cover Disposal Option Sediment Screening Criteria. San Francisco, California.



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2800 Cottage Way, Room W-2605
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IN REPLY REFER TO:
CESAC - Bel Marin Keys
Unit V Wetland Restoration

September 30, 2002

Mr. Thomas R. Kendall
Chief, Planning Division
Corps of Engineers, San Francisco District
333 Market Street
San Francisco, California 94105-2197

Dear Mr. Kendall:

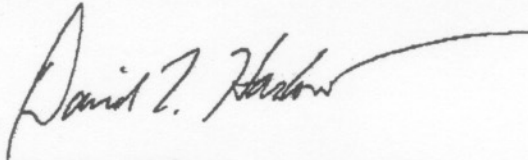
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Per a request from staff at your agency, this letter serves to demonstrate that staff from our office are coordinating with staff from your office on the BMK project. A Habitat Evaluation Procedures (HEP) team has been formed to include staff from the Fish and Wildlife Service (Service), Corps, California Department of Fish and Game (CDFG), and BCDC. The team has met several times to discuss the HEP process, select Habitat Suitability Index (HSI) Models, discuss methodology to collect the data in the field, etc. and has also met several times at the BMK site to collect field data. The team will need to spend several more days in the field to collect data, and attend meetings to analyze the data and predict future HSI values for both without and with the project conditions, prior to the draft Fish and Wildlife Coordination Act (FWCA) report being completed.

Staff from your office has requested that we provide a best estimate of when the draft FWCA report will be completed. At this time, a date is difficult to predict, but taking into account the amount of work that still needs to be performed, our estimate is sometime in December, at the earliest. As the work progresses and more information is collected, it will be easier to predict a more accurate completion date.

If you have any questions concerning this letter, please contact Caroline Prose at (916) 414-6575.

Sincerely,

A handwritten signature in dark ink, appearing to read "David L. Harlow", with a long, sweeping horizontal line extending to the right.

David L. Harlow
Acting Field Supervisor

cc:

FWS, AES, Portland, OR
FWS, San Francisco Bay NWR Complex, Newark, CA
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